

In the Claims

Please amend the claims as set forth in the clean version of the claims set forth below:

1 1. (Amended) A near object detection system comprising:
2 a plurality of sensors, each of the sensors for providing range cell data in a
3 predetermined coverage zone;
4 a processor, coupled to receive and process the range cell data to provide a
5 processor output coupled to one or more vehicle systems, wherein said processor includes
6 a target tracker portion adapted to maintain a plurality of track information generated by
7 the plurality of target sensors; and
8 means for sharing information from each of the plurality of sensors.

1 2. (Amended) The system of Claim 1 wherein said processor corresponds to a central
2 sensor processor coupled to each of said plurality of sensors.

1 3. (Amended) The system of Claim 1, wherein said processor is provided from a
2 plurality of sensor processors, each of the sensor processors disposed in a corresponding
3 one of said plurality of sensors; and each of the sensor processors having communication
4 means for allowing information to be shared between each of the plurality of sensor
5 processors.

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4. (Amended) A near object detection system for a vehicle, comprising:
2 a plurality of sensors, each of the sensors for providing detection coverage in
3 respective coverage zones disposed about a perimeter of the vehicle,
4 wherein each of the sensors has a respective predetermined range, angular extent,
5 and velocity range based upon respective coverage zone requirements.

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1 ~~13~~ (Amended) The system according to claim ~~1~~, wherein the coverage zones include two
2 or more of an adaptive cruise control/night vision zone, a lane keeping zone, a road
3 departure zone, a side object detection zone, a backup and parking aid zone, and a stop
4 and go zone.

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1 ~~14~~ A near object detection system, comprising:
2 a plurality of sensors, each of the sensors for providing detection coverage in a
3 predetermined coverage zone;
4 a multiple hypothesis tracker for processing data from the plurality of sensors to
5 make a hypothesis about data association, resolution, and/or data quality;
6 a prediction filter coupled to the multiple hypothesis tracker for scheduling the
7 plurality of sensors;
8 a public track former including a discrimination processor for generating data to
9 control operation of the plurality of sensors;
10 an estimator/best state vector subsystem coupled to the public track former; and
11 a vehicle control crash management interface coupled to the estimator/best state
12 vector subsystem and to the discrimination processor.

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1 ~~15~~ (New) The system according to Claim ~~1~~, wherein the predetermined coverage
2 zone includes two or more of an adaptive cruise control/night vision zone, a lane keeping
3 zone, a road departure zone, a side object detection zone, a backup and parking aid zone,
4 and a stop and go zone.

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1 ~~4~~ (New) The system of Claim 1, wherein said processor further includes a data
2 fuser portion adapted to fuse the plurality of track information into a common filter to
3 increase performance of the plurality of target sensors.

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1 ~~5~~ (New) The system of Claim 1, wherein the sensors, include at least one of:
2 an infrared (IR) sensor and a radar sensor.

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1 ~~7~~ (New) The system of Claim ~~9~~ 5 wherein the radar sensor comprises:
2 a transmit antenna for transmitting an FMCW frequency in a plurality of transmit
3 beams; and
4 a receive antenna for receiving the FMCW frequency in a plurality of receive
5 beams, which, in combination the transmit beams, provides a pre-determined coverage
6 zone.

1 ~~7~~ (New) The system of Claim ~~10~~ 6, having at least one transmit beam and at least
2 one receive beam.

1 ~~10~~ (New) The system of Claim ~~10~~ 6, wherein the predetermined coverage zone has
2 zone characteristics, at least one of which can be statically changed.

1 ~~10~~ (New) The system of Claim ~~12~~ 8 wherein at least one of the zone characteristics
2 can be dynamically changed to provide an alteration of a time period upon which the
3 target sensor processes a particular transmit beam and a particular receive beam.

1 ~~10~~ (New) The system of Claim ~~12~~ 5 wherein said processor is provided from a central
2 processor.

1 ~~11~~ (New) The system of Claim ~~1~~ 5, wherein said processor comprises two or more
2 distributed processors.